

CoreIPC

ITX76M

Mini-ITX Industrial Motherboard Datasheet

Intel® Sandy Bridge / Ivy Bridge-M Platform

Document	Datasheet
Model	ITX76M
Issue	1.0
Product Type	Mini-ITX Industrial Motherboard
Website	www.CoreIPC.com

This datasheet is prepared based on ITX76M User Manual Issue 1.0.

1. Product Overview

The ITX76M is a CoreIPC Mini-ITX industrial motherboard supporting Intel® PGA988 2nd/3rd Generation Sandy Bridge and Ivy Bridge processors. It integrates DDR3 memory, VGA, HDMI, LVDS and dual-eDP display capability, up to dual Gigabit Ethernet, SATA and mSATA storage, Mini PCIe expansion, extensive USB and serial connectivity, LPT, PS/2, GPIO, amplified audio, and 12 V DC input for industrial and embedded applications.

2. Key Features

- Supports Intel® PGA988 Sandy Bridge / Ivy Bridge 2nd/3rd Generation Celeron®, Pentium®, and Core™ i3/i5/i7 processors.
- 1 x DDR3 SO-DIMM slot supporting single-channel DDR3-1333/1600 memory, up to 8 GB.
- VGA, HDMI, LVDS and 2 x eDP interfaces; supports dual-eDP display and synchronous/asynchronous multi-display output.
- 1 x Realtek RTL8111H Gigabit Ethernet controller; second LAN optional with Wake-on-LAN and PXE support.
- Storage includes 2 x SATA 2.0 interfaces and 1 x full-size mSATA 3.0 slot.
- 1 x Mini PCIe slot supporting half-size/full-size Wi-Fi or 4G modules.
- 2 x USB 3.0 plus multiple USB 2.0 interfaces; exact USB availability depends on single-LAN/dual-LAN configuration.
- Provides up to 6 x COM ports. COM1/COM2 support RS232/RS485 selection; Ordering Information lists 1 or 2 RS485 depending on model.
- LPT, PS/2, 4-channel GPIO, hardware watchdog, ALC897 audio with 2 x 5 W amplifier output, CPU/system fan headers and AT/ATX power mode selection.
- Mini-ITX 170 x 170 mm; 12 V DC input; operating temperature -10°C to 60°C.

3. Technical Specifications

Category	Specification
Processor	Intel® PGA988 Sandy Bridge / Ivy Bridge 2nd/3rd Generation Celeron®, Pentium®, and Core™ i3/i5/i7 processors.
Chipset	Intel® HM77 / HM76 chipset.
Memory	1 x SO-DIMM; single-channel DDR3-1333/1600; up to 8 GB.
Graphics / Display	Integrated Intel® HD Graphics 4000; 1 x VGA, 1 x HDMI, 1 x LVDS, 2 x eDP; dual-eDP supported.
Ethernet	1 x Realtek RTL8111H Gigabit Ethernet controller; second LAN optional; Wake-on-LAN and PXE support.
Storage	2 x SATA 2.0 interfaces; 1 x full-size mSATA 3.0 slot.
Audio	Realtek ALC897 7.1-channel HD audio; Mic-in, Line-out, and 2 ohm / 5 W stereo amplifier output.
Expansion	1 x Mini PCIe slot supporting half-size/full-size Wi-Fi or 4G modules.
USB	2 x USB 3.0 plus USB 2.0 interfaces. Exact count/population varies with LAN configuration; Ordering Information lists 10 USB.
Serial Ports	Up to 6 x COM. COM1/COM2 support RS232/RS485 selection; COM1/COM2 Pin 9 can provide RI / 5 V / 12 V.
Legacy I/O	1 x LPT header; 1 x PS/2 keyboard/mouse header.
GPIO	4-channel GPIO input/output plus 1 x cash-drawer GPIO header.
BIOS	32 Mb Flash ROM.
Watchdog	Hardware reset watchdog, 256 levels (0-255 seconds).
OS Support	Windows XP / Windows 7 / Windows 10 / Linux.
Power	12 V DC input; AT/ATX power-mode selection.
Dimensions	170 mm x 170 mm.
Environment	Operating: -10°C to 60°C; Storage: -20°C to 70°C; Humidity: 5%-95% RH, non-condensing.

4. I/O Interface Summary

4.1 Rear Panel I/O

Interface	Description
Display	1 x HDMI; 1 x VGA.
USB	2 x USB 3.0; 2 x USB 2.0 depending on LAN configuration.
LAN	1 x RJ45 Gigabit Ethernet standard; optional LAN2 is mutually exclusive with 2 x rear USB 2.0.
Audio	1 x Line-out (green); 1 x Mic-in (red).
Power / Control	1 x 12 V DC input; 1 x Clear CMOS push button.

4.2 Internal I/O and Headers

Interface / Header	Description
VGA	1 x 1 x 12-pin JVGA header sharing the same VGA signals as the DB15 port.
LVDS	1 x 2 x 15-pin dual-channel 24-bit LVDS header.
eDP	2 x 2 x 15-pin eDP headers supporting dual-eDP display.
Panel / Backlight	Selectable 3.3 V / 5 V / 12 V panel voltage; selectable 5 V / 12 V backlight power.
USB 2.0	Multiple 2 x 5-pin USB 2.0 headers; source states dual-LAN and single-LAN variants have different onboard USB availability.
Serial	2 x standard COM headers plus 1 x 2 x 20-pin header for COM3-COM6.
LPT / PS2	1 x 2 x 13-pin LPT header; 1 x 1 x 6-pin PS/2 keyboard/mouse header.
Audio	1 x front-audio header; 1 x 4-pin amplified speaker output header.
Power / Panel	2 x drive power connectors; 1 x 4-pin ATX power connector; 1 x front-panel switch/LED header.
Fan / GPIO	1 x CPU fan header; 1 x system fan header; 1 x GPIO header; 1 x cash-drawer GPIO header.

5. Display Support

ITX76M provides VGA, HDMI, LVDS and two eDP display interfaces. The source manual states support for dual-eDP display and synchronous/asynchronous display through VGA, HDMI, LVDS and eDP. LVDS provides selectable 3.3 V / 5 V / 12 V panel voltage, while panel backlight power can be set to 5 V or 12 V.

Item	Description
Integrated Graphics	Intel® HD Graphics 4000.
VGA	1 x VGA output.
HDMI	1 x HDMI output.
LVDS	1 x dual-channel 24-bit LVDS interface.
eDP	2 x eDP interfaces; dual-eDP display supported.
Multi-display	Supports synchronous/asynchronous display through VGA, HDMI, LVDS and eDP.

6. Serial Port Configuration

Port / Group	Default / Optional Function
COM1	RS232 default; supports RS485 by jumper; Pin 9 selectable RI / 5 V / 12 V.
COM2	RS232 default; supports RS485 by jumper; Pin 9 selectable RI / 5 V / 12 V.
COM3-COM6	RS232 via 2 x 20-pin four-port header.
2-COM Model	Ordering Information: ITX76M-L12, 2 COM / 1 RS485.
6-COM Models	Ordering Information: ITX76M-L16 / L26, 6 COM / 2 RS485.

7. Power, Cooling and Reliability Functions

Item	Description
Main Power	12 V DC input.
AT / ATX Mode	AT-ATX1 jumper selects automatic power-on behavior.
Cooling	1 x 4-pin CPU fan connector and 1 x 4-pin system fan connector.
Watchdog	Hardware reset watchdog, 256 levels (0-255 seconds).
Clear CMOS	JBAT1 1 x 3-pin Clear CMOS jumper plus rear Clear CMOS push button.
Panel Power	LVDS/eDP panel and backlight voltage selections are jumper-configurable.

8. Mechanical and Environmental Information

Item	Description
Form Factor	Mini-ITX industrial motherboard.
Dimensions	170 mm x 170 mm.
Operating Temperature	-10°C to 60°C.
Storage Temperature	-20°C to 70°C.
Operating Humidity	5%-95% RH, non-condensing.
Power Input	12 V DC.

9. Ordering Information

Model	Description
ITX76M-L12 VER1.0	HM76; DDR3L in Ordering Information; HDMI + VGA + LVDS + eDP; 1 LAN; 10 USB; PS/2; LPT; 2 COM / 1 RS485; 12 V DC.
ITX76M-L16 VER1.0	HM76; DDR3L in Ordering Information; HDMI + VGA + LVDS + eDP; 1 LAN; 10 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V DC.
ITX76M-L26 VER1.0	HM76; DDR3L in Ordering Information; HDMI + VGA + LVDS + eDP; 2 LAN; 10 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V DC.
Display	Dual-eDP display supported; LVDS and eDP interfaces are also defined in the source manual.

10. Compliance and Documentation Notes

- Certification and compliance information is not specified in the source manual. Contact CoreIPC for project-specific certification or compliance documentation.
- Memory terminology differs by section. Product Description and Motherboard Specifications state DDR3-1333/1600, up to 8 GB, while Ordering Information labels the memory as DDR3L. The Memory Installation section also states 1 x 204-pin DDR3 SO-DIMM. This datasheet follows the detailed product/specification wording and recommends confirming the production BOM before ordering.
- USB resources vary by configuration. Ordering Information lists 10 USB ports, while the detailed specification lists 2 x rear USB 3.0, 2 x rear USB 2.0 sharing resources with LAN2, and multiple onboard USB 2.0 headers. Confirm the exact single-LAN or dual-LAN USB population before ordering.

11. Contact Information

Company	CoreIPC
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Disclaimer: This datasheet was compiled from ITX76M User Manual Issue 1.0. Product specifications, interface counts, supported functions and optional configurations may vary by production revision. Please confirm the selected configuration before order placement. All product names, trademarks and registered trademarks are the property of their respective owners.